



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,134	03/29/2004	Rebecca Wright	3086.EEM	3212
7590 Charles W. Almer National Starch and Chemical 10 Finderne Avenue Bridgewater, NJ 08807		03/12/2007	EXAMINER BERMAN, SUSAN W	
			ART UNIT 1711	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/12/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/812,134	WRIGHT ET AL.	
	Examiner	Art Unit	
	Susan W. Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 February 2007.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-23 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02-15-2007 has been entered.

Response to Amendment

See the rejection under 35 USC 112, first paragraph, set forth below.

Response to Arguments

Applicant's arguments filed 06-20-2006 have been fully considered but they are not persuasive.

WO 03/053728: Applicant alleges that the silicone emulsion polymers disclosed by WO '728 do not include non-reactive silicones. This argument is persuasive with respect to the silicone polyester acrylate disclosed by WO '728 that contains acrylate groups. Applicant's argument is unpersuasive with respect to the polyether silicone copolymer disclosed by WO '728 since no reactive groups are noted. Therefor, the rejection of claims over WO '728 is maintained.

Claim Rejections - 35 USC § 112

Claims 1-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner has not found any disclosure within the specification that the silicone

resin emulsion is a “non-reactive” silicone resin emulsion. What is disclosed on page 5, lines 11-21, is that a silicone resin emulsion can be included to provide slip properties, that the silicone resin emulsion component has a specified high molecular weight and that polydimethoxysiloxane is an example of a useful silicone resin. Polydimethoxysiloxane contains methoxy groups, which are hydrolyzable reactive groups, and is, therefore, not a “non-reactive” silicone resin.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4-9, 15, 16 and 18-23 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 03/053728. WO '728 discloses coating compositions comprising water-borne “PUD” resins, a photoinitiator and wetting agents in the Examples. The wetting agents taught include silicone polymers in emulsion form, for example, polyether siloxane copolymer Tegoglide 450. The polyether siloxane copolymer is considered to clearly provide a “non-reactive” silicone resin. Additional “non-reactive” surfactants are disclosed by tradenames (page 3, lines 6-7). See page 2, line 14, to page 3, line 13. With respect to claim 2, WO '728 teaches that Irgacure 2959, one of the oligomeric photoinitiators specifically disclosed by applicant on page 5, line 9, of the specification, is a preferred photoinitiator. With respect to claims 5-9, although WO '728 does not specifically teach the ranges of weight percent set forth, the compositions taught by WO '728 comprise the recited components in weight percents within the instantly claimed ranges. With respect to claims 18-20, the properties set forth in the claims are

considered to be inherent properties of the compositions disclosed by WO '728 because the same components as are set forth in the claims are taught.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 4-9, 15, 16, and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/053728. See the discussion of WO '728 set forth above. WO '728 teaches silicone polymers in emulsion form as wetting agents, including reactive silicone polyester acrylate Tegorad 2200N and non-reactive polyether siloxane copolymer Tegoglide 450. Additional "non-reactive" surfactants are disclosed by tradenames (page 3, lines 6-7).

It would have been obvious to one skilled in the art at the time of the invention to select the polyether siloxane as wetting agent in the compositions disclosed by WO '728 for the following reasons. WO '728 teaches that a polyether siloxane and other tradenamed surfactants other than the silicone polyester acrylate are examples of useful wetting agents in the disclosed compositions. One of ordinary skill in the art at the time of the invention would have been motivated to select a non-reactive wetting agent by a desire to employ a wetting agent that does not polymerize into the coating upon exposure to radiation.

Claims 2, 3 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/053728, as applied to claims 1, 2, 4-9, 15, 16, and 18-23 above, and further in view of Weikard et al (6,960,639). The disclosure of WO '728 is discussed above. Weikard et al disclose aqueous coating compositions based on polyurethane dispersions and a photoinitiator. Table 2

discloses compositions comprising a wax and a BYK leveling additive. Weikard et al teach that the preferred photoinitiators are those easy to incorporate into aqueous coating compositions. The disclosed preferred photoinitiators are alpha-hydroxyalkylphenones, such as Irgacure 500 and Esacure KIP photoinitiators (column 14, lines 54-59). Light stabilizers, UV absorbers, wetting agents and dispersions are taught in column 15, lines 27-40. Wax dispersing agent is used in the examples (see Table 2).

With respect to claim 2, It would have been obvious to one skilled in the art at the time of the invention to substitute the preferred photoinitiators taught by Weikard et al for the preferred photoinitiator taught by WO '728. Motivation is provided by the teaching of Weikard et al that photoinitiators easily incorporated into aqueous coating compositions are preferred for use in the polyurethane emulsions. With respect to claims 3 and 11-12, WO '728 does not mention adding a UV stabilizer, a UV absorber, a wax or a nylon. However, Weikard et al teach adding light stabilizers and wax dispersing agent. It would have been obvious to one skilled in the art at the time of the invention to employ light stabilizers and a wax dispersing agent, as taught by Weikard et al in analogous aqueous polyurethane emulsions, in the compositions disclosed by WO '728. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing light stabilization to the cured coating and improving dispersion in the aqueous dispersions, as taught by Weikard et al.

Claims 1-12 and 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/053728, as applied to claims 1, 2, 4-9, 15, 16, and 18-23 above, and further in view of Griswold et al (5,525,427). WO '728 teaches silicone wetting agents but does not mention

methylmethoxypolysiloxane by name. Griswold et al teach a water reducible weatherstrip coating composition comprising a silicone emulsion, a bath life extender, such as a polyurethane dispersion, and a crosslinking composition. See column 5, lines 29-47, and column 7, lines 43-60. Methylmethoxypolysiloxane is taught as a water reducible resin acting as a bath life extender and water repellant.

It would have been obvious to one skilled in the art to employ a polysiloxane having a methoxy group, as taught by Griswold et al, as the silicone wetting agent in the compositions disclosed by WO '728 in order to take advantage of its function as a bath life extender and a water repellant, taught by Griswold et al. It would have been obvious to one skilled in the art at the time of the invention to determine the optimum weight percent of silicone emulsion to employ in the compositions suggested by the teachings of WO '728 alone or the teachings of WO '728 and Griswold et al in combination.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/053728, as applied to claims 1, 2, 4-9, 15, 16, and 18-23 above, and further in view of Van Den Berg et al (6,987,135). The disclosure of WO '728 is discussed above. Van Den Berg et al disclose photoactivatable water borne coating compositions comprising a polyurethane dispersion and a photoinitiator. Table 8 discloses a compositions comprising KIP 100F as photoinitiator, a BYK defoamer, BYK leveler and a polyamide wax orgasol each in amounts encompassed by the instant claims. WO '728 does not teach polyamide additives. However, It would have been obvious to one skilled in the art at the time of the invention to employ a polyamide wax orgasol, as taught by Van Den Berg et al in analogous aqueous polyurethane

dispersions, in the aqueous polyurethane dispersions taught by WO '728. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation that the polyamide additives would function advantageously in the dispersions disclosed by WO '728.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W. Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Berman

Susan W Berman
Primary Examiner
Art Unit 1711

SB
3/5/07